



Smart Solutions for Intralogistics Automation



**INTERROLL
PALLET ROLLER FLOW
PF 1100**





HOW TO STORE

WHY IS FLOW STORAGE THE RIGHT SOLUTION?

If you are operating a warehouse with conventional pallet racking and a fast throughput of stock, Interroll Pallet Roller Flow storage provides you the right solution to achieve increased efficiencies, such as:

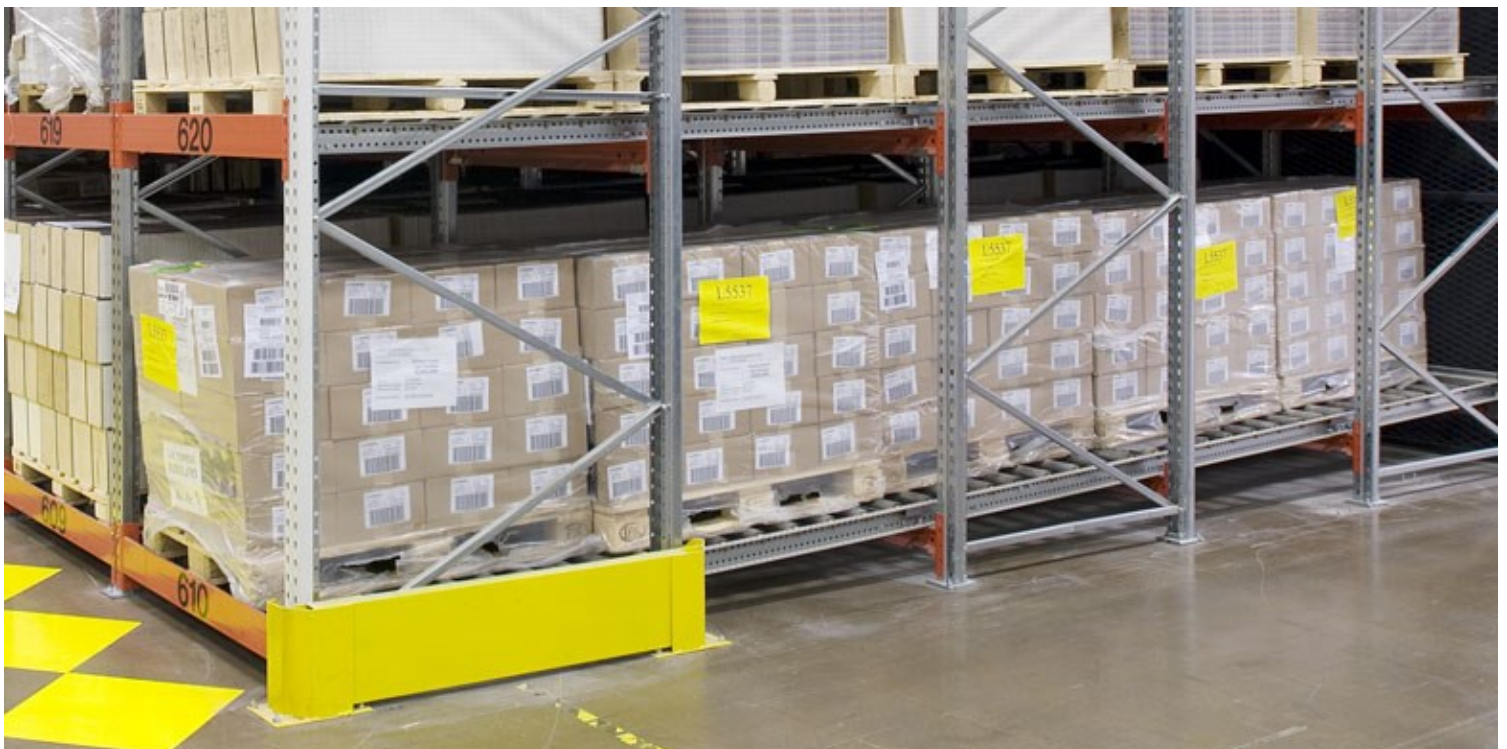
- Space saving - maximises available storage area by reducing the number of aisles
- Faster throughput of stock with minimum handling – as goods move automatically from the loading face to the order picking face at a controlled speed on gravity conveyor beds
- Accurate stock rotation using FIFO (First-In-First-Out) principles reduces waste of fresh and date sensitive products
- Shorter travel times increase order picking efficiencies and improve productivity
- Separate loading and order picking aisles ensure safe flow of vehicles and personnel
- A reduction of energy consumption



PF1100 is suitable for mounting in most types of pallet racking. No additional investments are therefore required to convert your existing pallet warehouse into an effective pallet storage.



YOUR PALLETS EFFICIENTLY



A QUICK RETURN

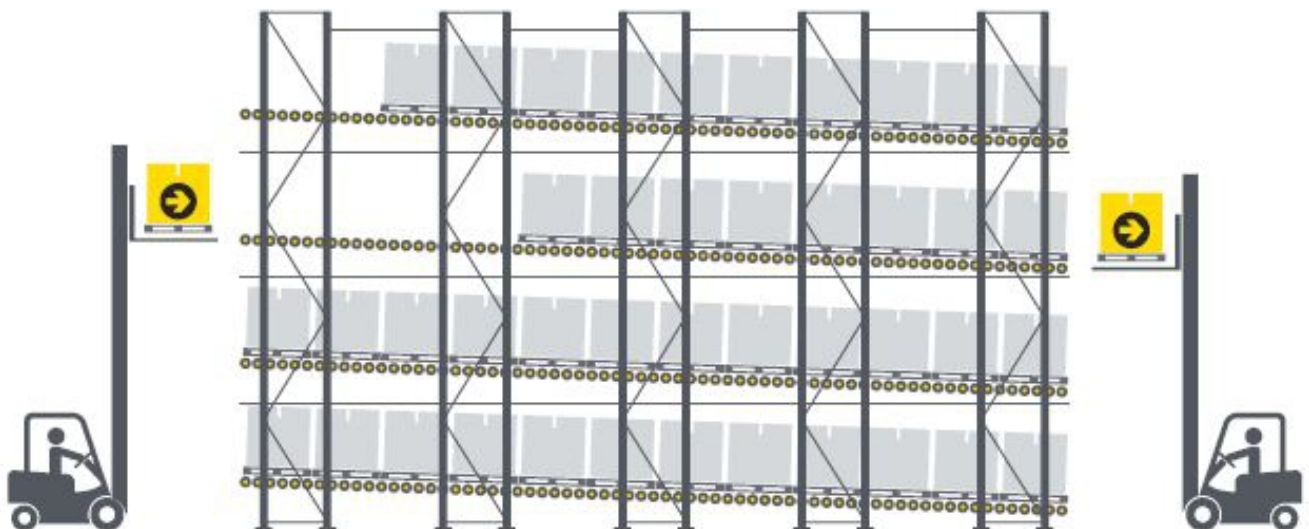


FIFO SYSTEM FIRST IN, FIRST OUT

The FIFO system is simple: The box or product that enters a system first comes out first. As a result, the "oldest" box or product is always used. With this method there is no risk that a box or product will never be used and therefore become obsolete. This is especially important for products with a best-before date or use-by date. Products can also age in a different way. By discoloration, by material deterioration, by fashion sensitivity.

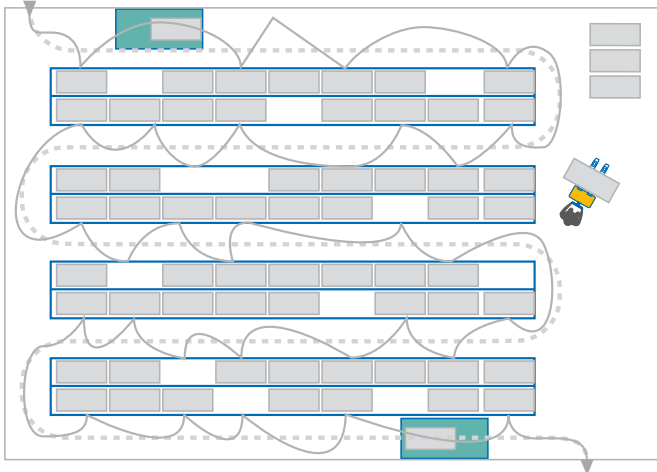
In production logistics, fifo is often important for supply to the production line or assembly. Parts can technically age (especially if rubber or plastic parts are used). But parts can also become obsolete due to updates or modifications. By applying a fifo system, the use of obsolete parts is prevented.

The flow rack is a proven fifo system in internal logistics and production

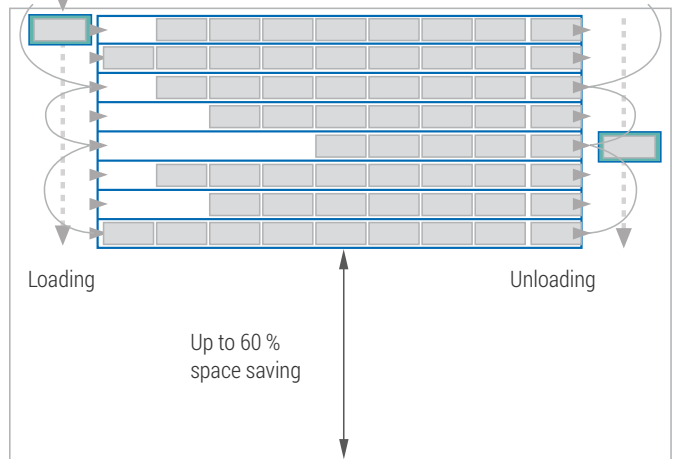


ON INVESTMENT...

Conventional racking



Flow storage



... by improving your warehouse's productivity

Generally, storage costs consist of 40 % logistic costs and 7 % product costs. Thus, monitoring of the overhead costs of operating a warehouse is a very critical part of management. Crucial factors are:

- Interest on stock value
- Depreciation and loss in value
- Warehouse operational costs (lighting, heating, refrigeration, vehicle usage, etc.)
- Time period for amortisation of the storage system

... by increasing your storage capacity

A Pallet Roller Flow installation maximises the use of available warehouse space by requiring only two aisles for the purpose of loading the system and order picking. The system is therefore more compact than conventional racking and can save, on average, up to 50 % of floor space. Moreover, picking from much shorter and condensed picking aisle saves an average of 70 % in travel distances.

... by increasing your warehouse's efficiency

Picking from only one aisle simplifies location and visual identification of pallet loads, minimises order picking errors and reduces travelling time. Therefore, this layout contributes to significant savings in handling times and creates opportunities to reduce energy costs. FIFO stock rotation has a decisive influence on the overall cost per pallet position and optimises stock rotation and value.

Ancillary technologies can be successfully introduced and aid in picking accuracy such as pick to light, counting scales, bar code scanners and RFID systems.

Increased staff safety and vehicle efficiencies are achieved as loaders and order pickers function in separate aisles with aisles avoiding traffic flow disrupting the individual operations.

INTERROLL PALLET ROLLER FLOW PF 1100

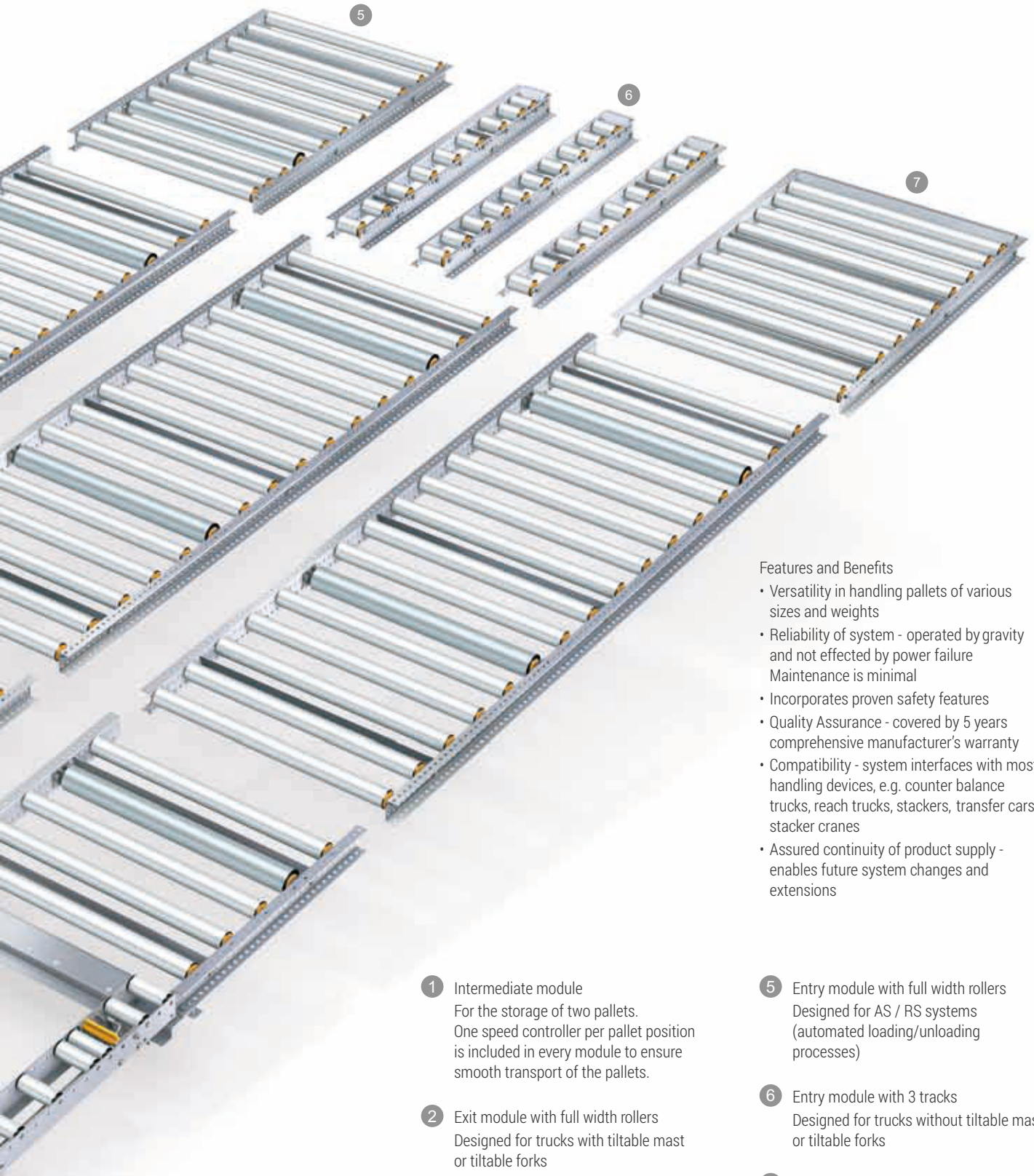
Our engineers have developed a Pallet Roller Flow system that incorporates innovative technology featuring a wearless speed controller, a robust pallet separator with a built-in "time delay" function and redesigned rollers.

This latest Pallet Flow generation contributes to even greater safety for operatives and provides a high quality live storage system that offers flexibility and efficiency in warehousing operations.

Interroll roller modules are compatible with

all world wide racking systems and offer the possibility to store a wide range of pallet sizes and weights, including Euro pallets, CHEP pallets, plastic pallets and metallic containers, etc. with high throughput.





- 1 Intermediate module
For the storage of two pallets.
One speed controller per pallet position
is included in every module to ensure
smooth transport of the pallets.
- 2 Exit module with full width rollers
Designed for trucks with tiltable mast
or tiltable forks
- 3 Exit module with 3 tracks
Designed for trucks without tiltable mast
or tiltable forks
- 4 Exit module for hand pallet
truck unloading
Designed for hand pallet trucks

Features and Benefits

- Versatility in handling pallets of various sizes and weights
- Reliability of system - operated by gravity and not effected by power failure
Maintenance is minimal
- Incorporates proven safety features
- Quality Assurance - covered by 5 years comprehensive manufacturer's warranty
- Compatibility - system interfaces with most handling devices, e.g. counter balance trucks, reach trucks, stackers, transfer cars, stacker cranes
- Assured continuity of product supply - enables future system changes and extensions

- 5 Entry module with full width rollers
Designed for AS / RS systems
(automated loading/unloading processes)
- 6 Entry module with 3 tracks
Designed for trucks without tiltable mast
or tiltable forks
- 7 Entry module with full width rollers
Designed for trucks with tiltable mast
or tiltable forks

The type of loading/unloading module depends on the handling method. Interroll designs, engineers and manufactures FIFO flow storage modules, which undergo rigorous tests to ensure maximum performance and durability.

DESIGNED WITH SAFETY

Safety time delay function

On lifting the first pallet to remove from the order picking face, there is a 20 second delay before the separation device releases the next pallet in line.

This gives the forklift truck driver all the necessary time to unload the pallet safely

before the second pallet is released.

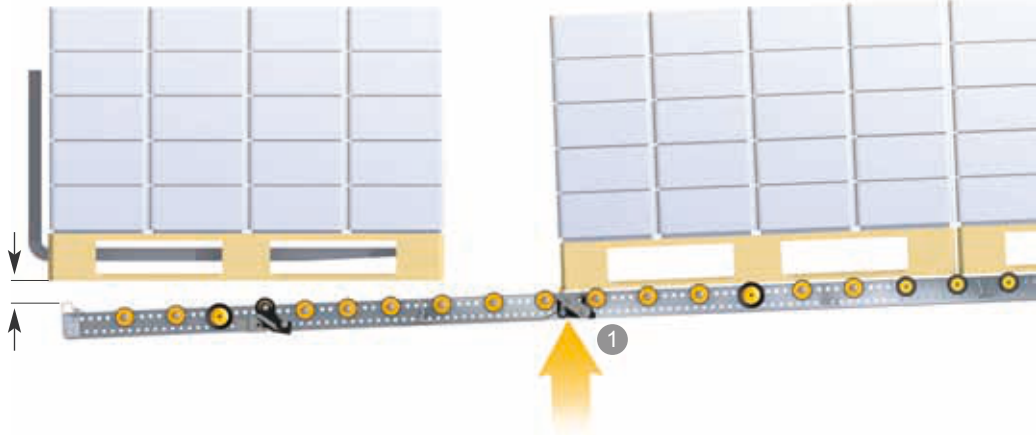
As a result of the pedal-less system, there is no longer pallet lift up height restriction for the truck driver, which is especially crucial and useful, for the forklift truck driver, when working at high levels with restricted visibility.

Step 1

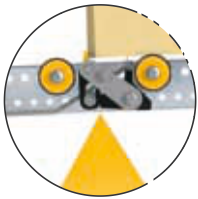


No more restriction

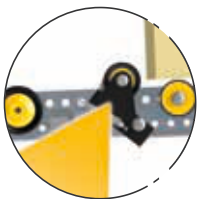
20 seconds delay when pallet is lifted



1



2

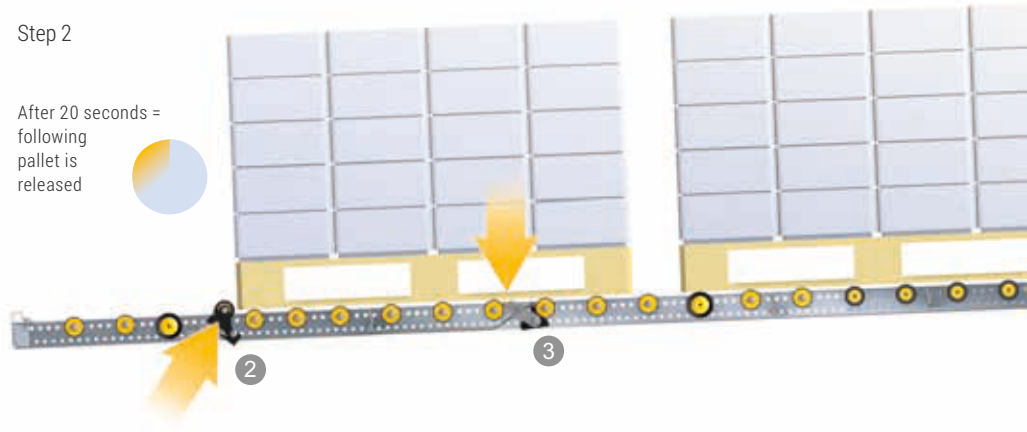


3



Step 2

After 20 seconds = following pallet is released



Preventive speed controller provides ultimate safety

This is a vital component that prevents the potential risk of free running pallets.

In the unlikely event of speed controller damage, the Interroll Speed Controller will automatically self lock and the pallet will be stopped.

Constant pallet speed at 0.25 m/s

The travel speed of pallets in gravity roller lanes is critical to safety. Therefore the Interroll Speed Controller regulates the flow of pallets at a steady speed of less than 0.25 m/s, whatever the weight of pallets (from 25 to 1400 kg in the same lane).

Controlled speed flow minimises load impacts, which prevents goods on pallets being damaged, maintains pallet load stability and ensures that less stress is transferred to the racking structure.

AT THE FOREFRONT

Optimised separator end stop
 Interroll has developed different separator solutions that can be combined with the time delay function.



Regular (standard)



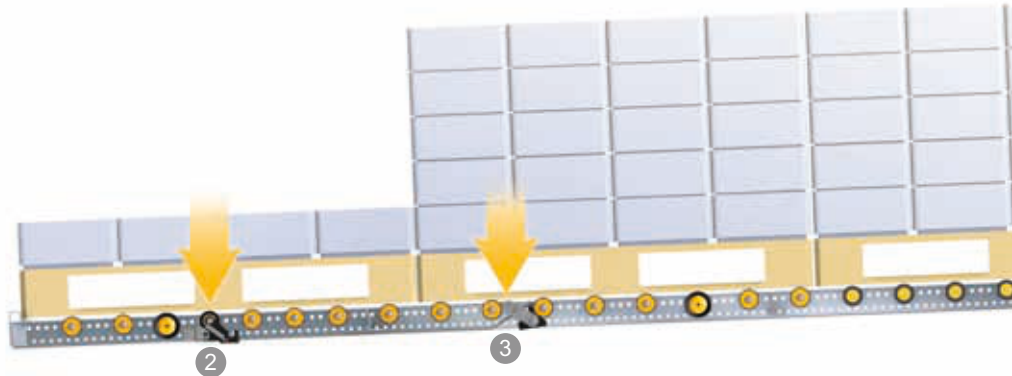
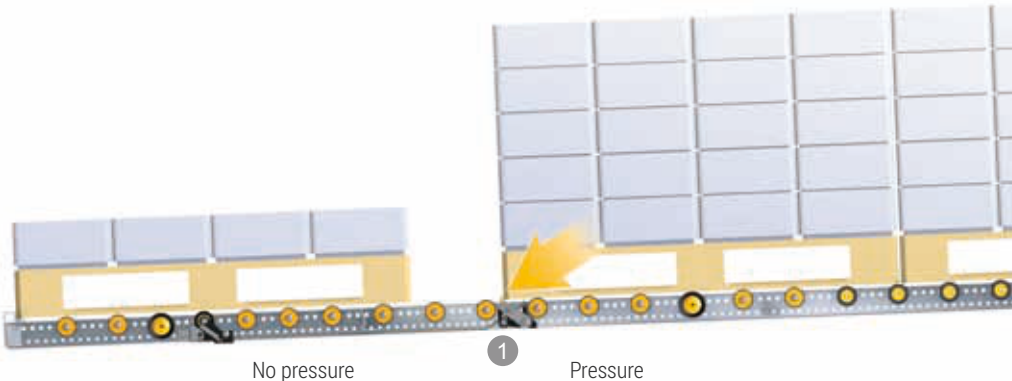
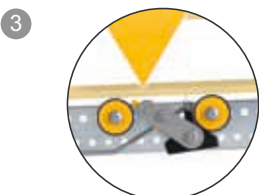
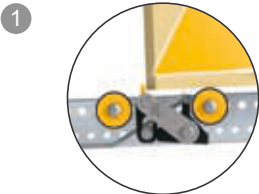
Heavy duty (option)

Regular separators – up to 12 tonnes in accumulation

Heavy duty separators – for applications involving long lanes conveying up to 20 tonnes and more of accumulated pallets, Interroll offers new reinforced separation devices with two independent stops for double safety assurance.

Safety separator function
 The pressure of the accumulated pallets on the separator stop device is not transferred to the pedal device. There is no risk that the pedal at the unloading side lifts up. This ensures safety in operation even with light pallets on the pedal system and

generally ensures the separating device functions reliably and requires minimum maintenance. Due to the separator stop device, the accumulated pallets cannot be released until the leading pallet is removed.



Pedal and separator device on low position simultaneously: no damage

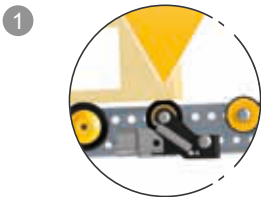
**MAXIMUM VERSATILITY
IN PALLET HANDLING**

Up to 100 pallets/hour
(compared to 5-30 pallets/hour with
conventional speed controllers)
Due to the unique wearless design,
deterioration of the speed controller
has been eliminated and therefore
can withstand high throughputs.



This ensures total reliability and durability with:

- No overheating of the speed controller, especially when involved with high throughputs as experienced in dispatch lanes
- Guaranteed trouble-free long life
- Controls pallet flow from 25 kg to 1400 kg at constant speed

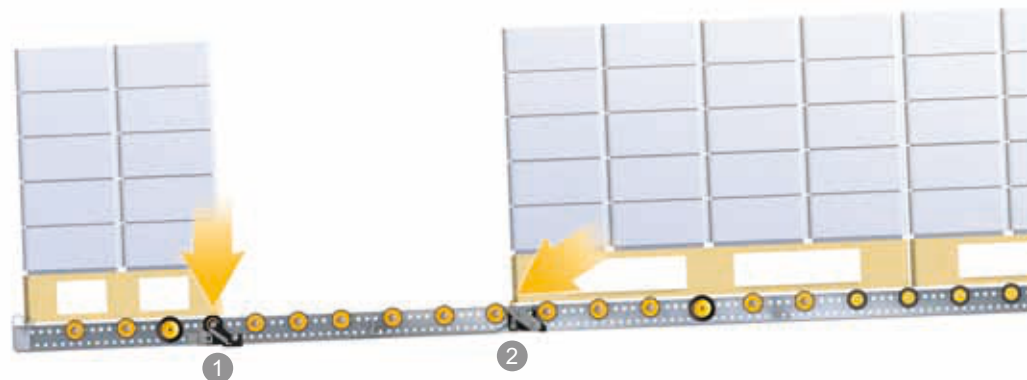


Versatility – handling mixed pallet weights and dimensions

The solution has been designed to fit with different pallet weights and lengths

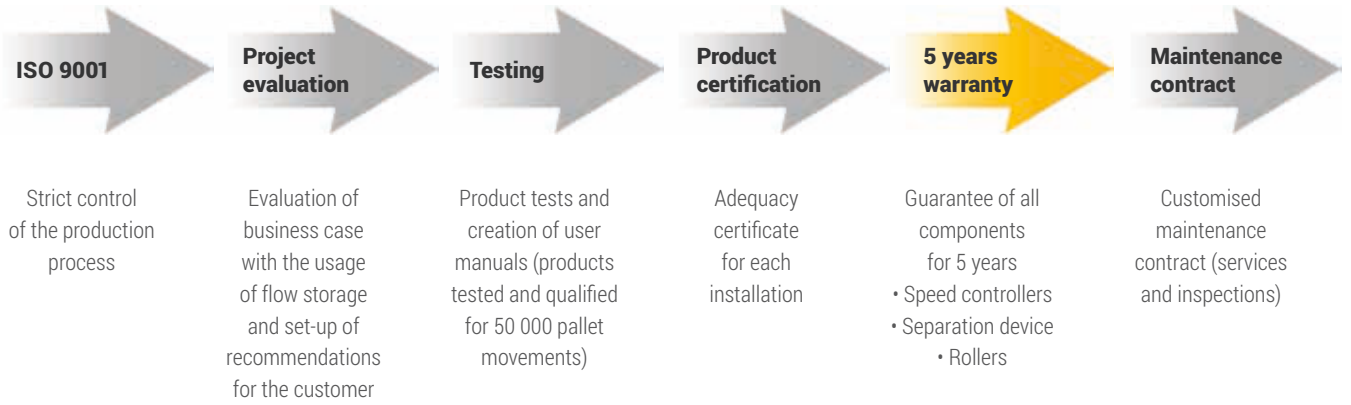
- From 60 kg to 1400 kg within the same lane

- Half (600 mm) and Euro (1200 mm) pallets within the same lane



A system in which you can trust Interroll solutions are fully tested and certified. The Centre of Excellence for Dynamic Storage in La Roche-sur-Yon (France) has a dedicated centre (800 sqm) for the thorough testing of the dynamic storage product range. All products are subjected to 50 000 pallet movements: safety separator, loading module, speed controller, rollers. A cold room allows us to test our complete product range at up to -28°C.

QUALITY ASSURANCE WITH COMPREHENSIVE GUARANTEE



TBWB is a dedicated
Rolling On Interroll partner
and System Integrator /
Service Partner
of Interroll systems and products



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